



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/782,785

02/23/2004

Nobushige Korenaga

00862.023468

5519

5514 7590 01/12/2007  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

SY, MARIANO ONG

ART UNIT

PAPER NUMBER

3683

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/782,785	KORENAGA, NOBUSHIGE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mariano Sy	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13,15-21 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13,15-21 and 24-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 24, 2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13, 15-21, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagishita (JP 7-267192-A) in view of Emoto (US 6,954,258).

Re-claims 13, 15-18, 21, 26, and 27 Yagishita disclosed, as shown in fig. 1-3, a supporting apparatus for supporting a member which mounts a movable stage 1 to a base 2 wherein the supporting apparatus is mounted on a vertical plane of the cabin, said apparatus comprising: a first magnet 3 arranged on one of the member and the base; a second magnet unit 4, 4' arranged on the other of the member and the base on which said first magnet is arranged, and arranged so that said first magnet is

Art Unit: 3683

interposed, wherein magnetized directions of said first magnet and said second magnet unit are perpendicular to a gravity direction of the member, and wherein a width size of said second magnet unit in a perpendicular direction to the magnetized directions and the gravity direction is different from or larger than a width size of said first magnet, (see abstract and fig. 1, wherein "item 7" shown in six locations, four at the base and two on a plane perpendicular to the base of the cabin, both cabin and helicopter body are attached in such a manner to cope with loads in three directions of a vertical, a lateral and a longitudinal direction); electromagnetic actuator 10, 11, see fig. 3; wherein the second magnet unit is arranged on the base; further comprising changing means 10, 11 for changing a region in which said first and second magnet unit face each other; wherein said changing means moves a plurality of magnets which constitute said second magnet unit in the perpendicular direction to the magnetized directions and the gravity direction; wherein said first magnet and second magnet unit are arranged so that spring constant becomes substantially zero in the perpendicular direction to the magnetized directions and the gravity direction.

However Yagishita disclosed an electromagnet instead of a permanent magnet.

Emoto teaches wherein the magnet which may be a permanent magnet or electromagnet and the driving means may be employing a Lorentz forces, a linear motor or the like, see col. 1, lines 24-28.

It would have been obvious to one of ordinary skill in the art to use a permanent magnet instead of electromagnet into the apparatus of Yagishita, as taught by Emoto, as a matter of design choice depending upon type of application and cost.

Re-claims 19, 20, 24, and 25, the claimed invention differs only in the intended use and are taught by Emoto.

It would have been obvious to one of ordinary skill in the art to have utilized the supporting apparatus of Yagishita as modified with an exposure apparatus and/ or a device manufacturing method, as taught by Emoto, as a matter of intended use and sized the apparatus accordingly based on the intended use.

### ***Response to Arguments***

4. Examiner maintains Yagashita (JP 7-267192-A) still reads on the claim language.

Yagashita disclosed as shown in fig. 1, cabin 1 has "item 7" shown mounted in six locations, four at the base and two on a plane perpendicular to the base of the cabin. The supporting apparatus 7 mounted on the plane perpendicular to the base of the cabin does read on the amended claim 21, the magnetized directions of the first magnet and the second magnet unit are perpendicular to a gravity direction of the member; and for the supporting apparatus 7 mounted on the base of the cabin, the magnetized directions of the first magnet and the second magnet unit are in the same direction as the gravity direction of the body and the cabin. Since it is old and well known of using permanent magnets require the use of a linear motor, while using electromagnets require the use of an electrical power source as its driving means, it would have been obvious to one of ordinary skill in the art to use a permanent magnet instead of electromagnet as a matter of design choice depending upon type of application and cost.

Art Unit: 3683

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sugishima et al. (US 4,684,315)

Korenaga (US 6,954,041)

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 571-272-7126.

The examiner can normally be reached on Mon.-Fri. from 8:30 A.M. to 2:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*msy* M. Sy

December 27, 2006

DEVON C. KRAEMER  
PATENT EXAMINER

*Devon Kraemer*  
1/8/07